

Immunisation of ferrets and mice with recombinant SARS-CoV-2 spike protein formulated with Advax-SM adjuvant protects against COVID-19 infection

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SUPPLEMENTARY MATERIAL

Supplementary Figure 1: Advax-SM adjuvant enhances Cytotoxic T lymphocyte (CTL) activity and overcomes dominant Th2-bias compared to rSp antigen alone or together with Advax-SM adjuvant. Female BL6 mice were immunised i.m. twice at 2-week intervals with 1 µg rSp alone or with Advax-SM or 50 µg Al(OH)₃ adjuvant. Blood samples were collected at 2 weeks and spleens at 4 weeks after the last immunisation. Shown are CTL functional assay (A) and ELISA (B) results (mean + SD). Statistical analysis was done by Mann-Whitney test. *; p < 0.05, ns; not significant.

Supplementary Figure 2: Co-administration of Advax-SM adjuvant enhances both vaccine-induced anti-rSp and anti-RBD antibodies in BALB/c mice. Shown are anti-rSp and anti-RBD antibodies measured by ELISA (mean + SD) in BALB/c mice. Statistical analysis was done by Mann-Whitney test. *; p < 0.05, **; p < 0.01.

Supplementary Figure 3: Neutralisation antibody titres determined by SARS-CoV-2 (S-CoV-2) Spike pseudotyped lentivirus-based platform and S-CoV-2 live virus. Correlation of NT titre and ELISA OD value in BL6 mice (A) and BALB/c mice (B).

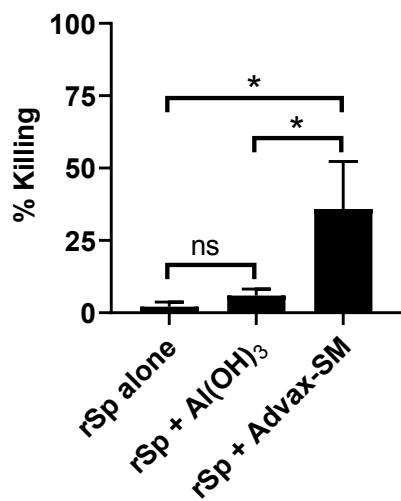
Supplementary Figure 4: Correlation of S-CoV-2 and pseudotype neutralisation assays.

Supplementary Figure 5: SARS-CoV-2 disease pathology in immunised and control ferrets post-challenge. (A) Change in body weight measured over 10 days post infection with 1 X 10⁵ PFU SARS-CoV-2 virus. (B) Lungs (n=3) were collected from each group at day 3 post-challenge, and histology sections were assessed by board-certified veterinary pathologist blinded to the groups for lung injury score and number of lesions.

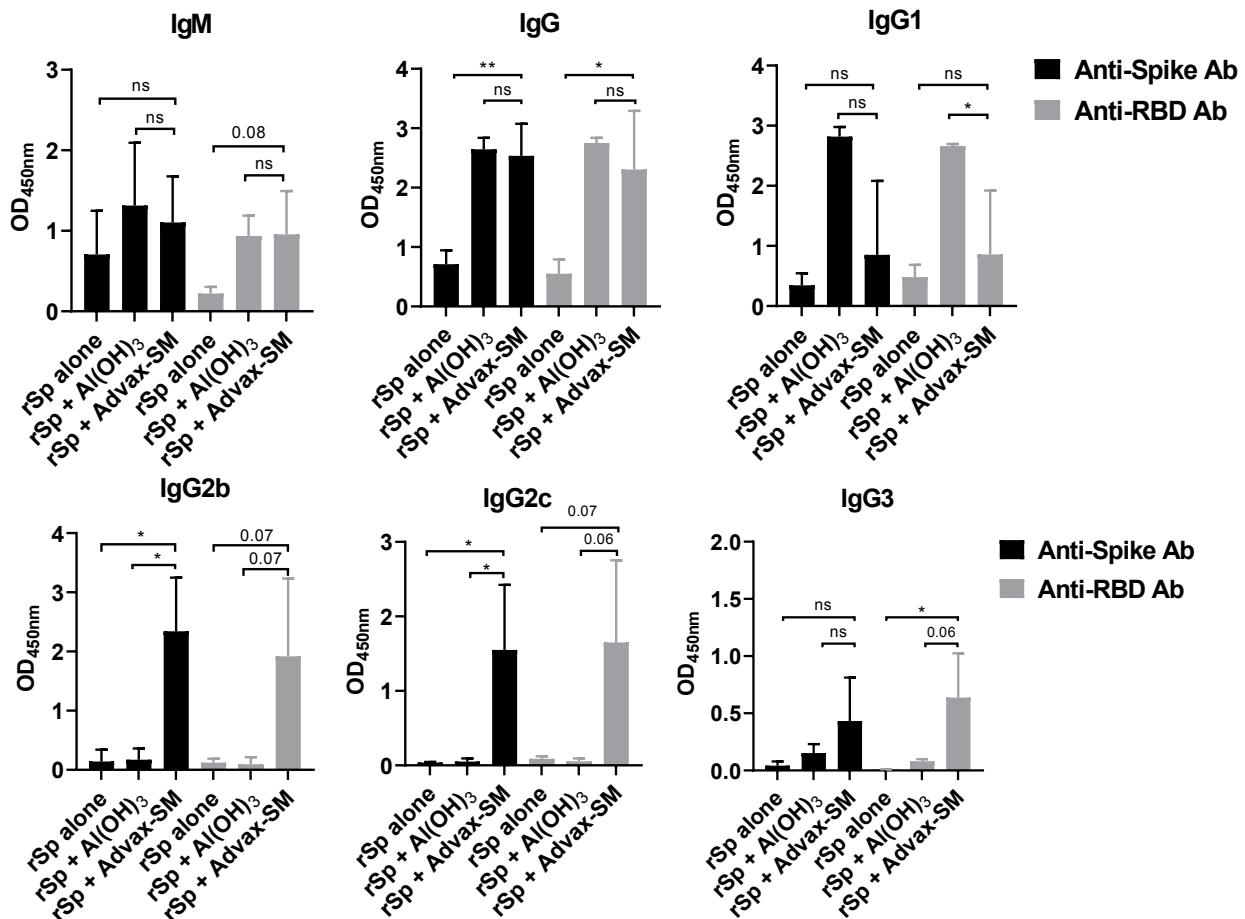
Supplementary Figure 1

A.

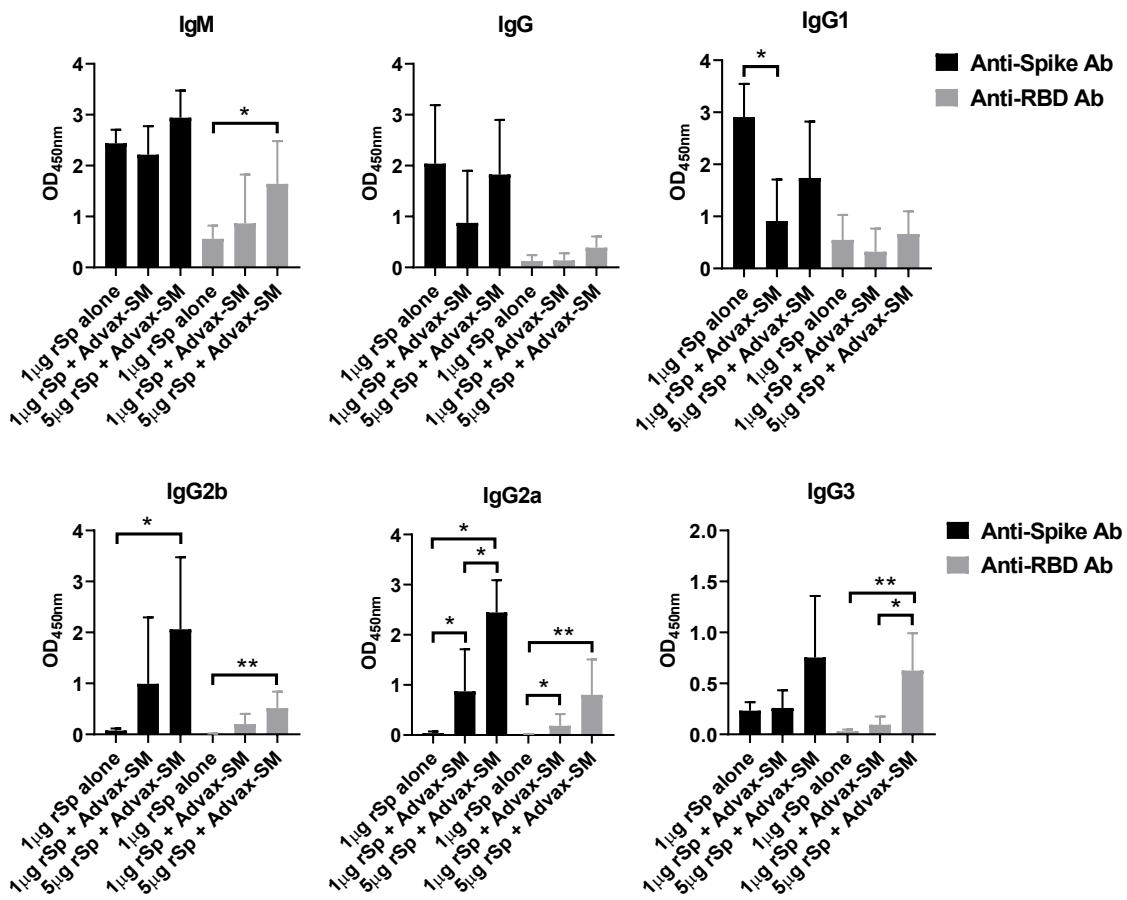
Anti-Sp CTL



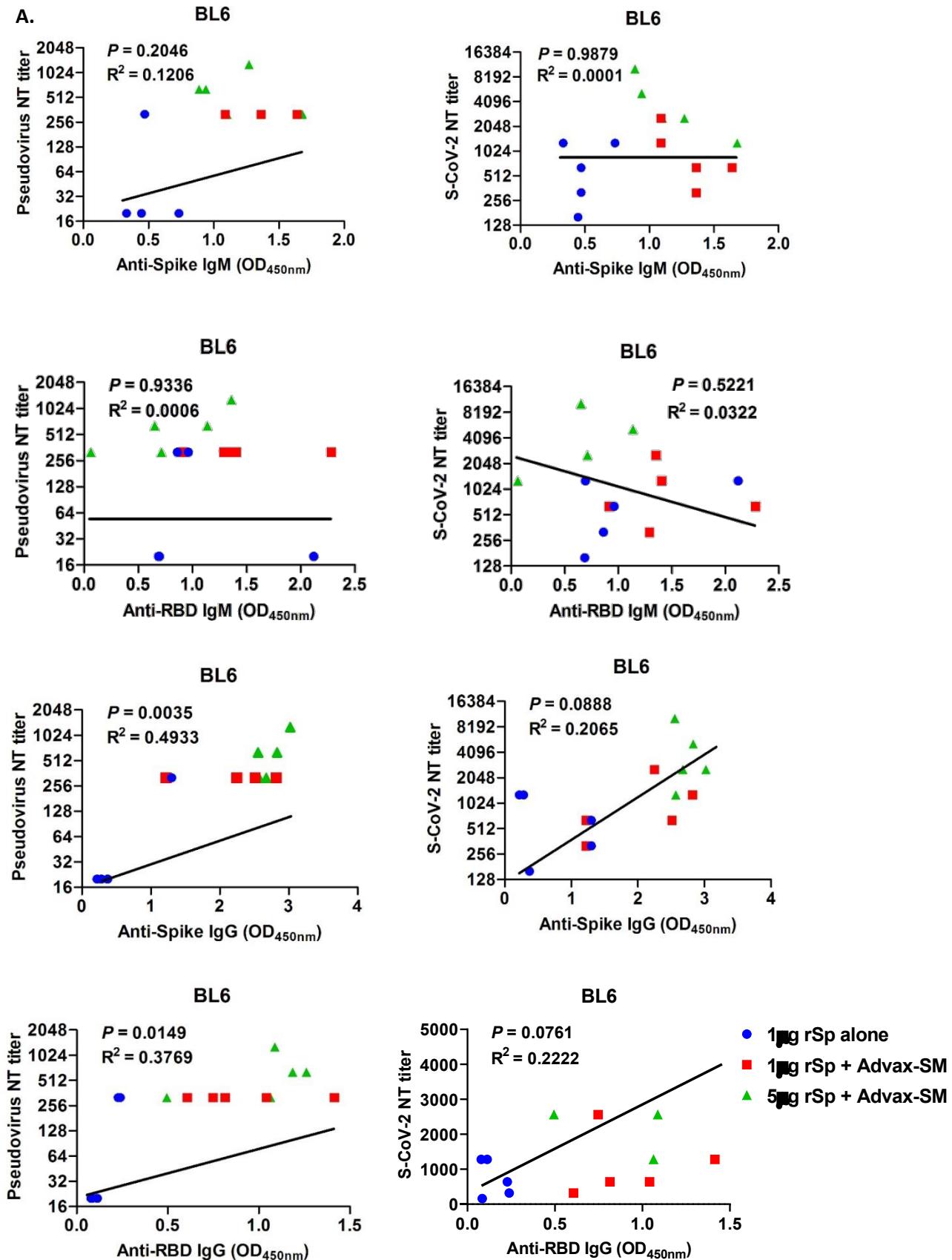
B.



Supplementary Figure 2

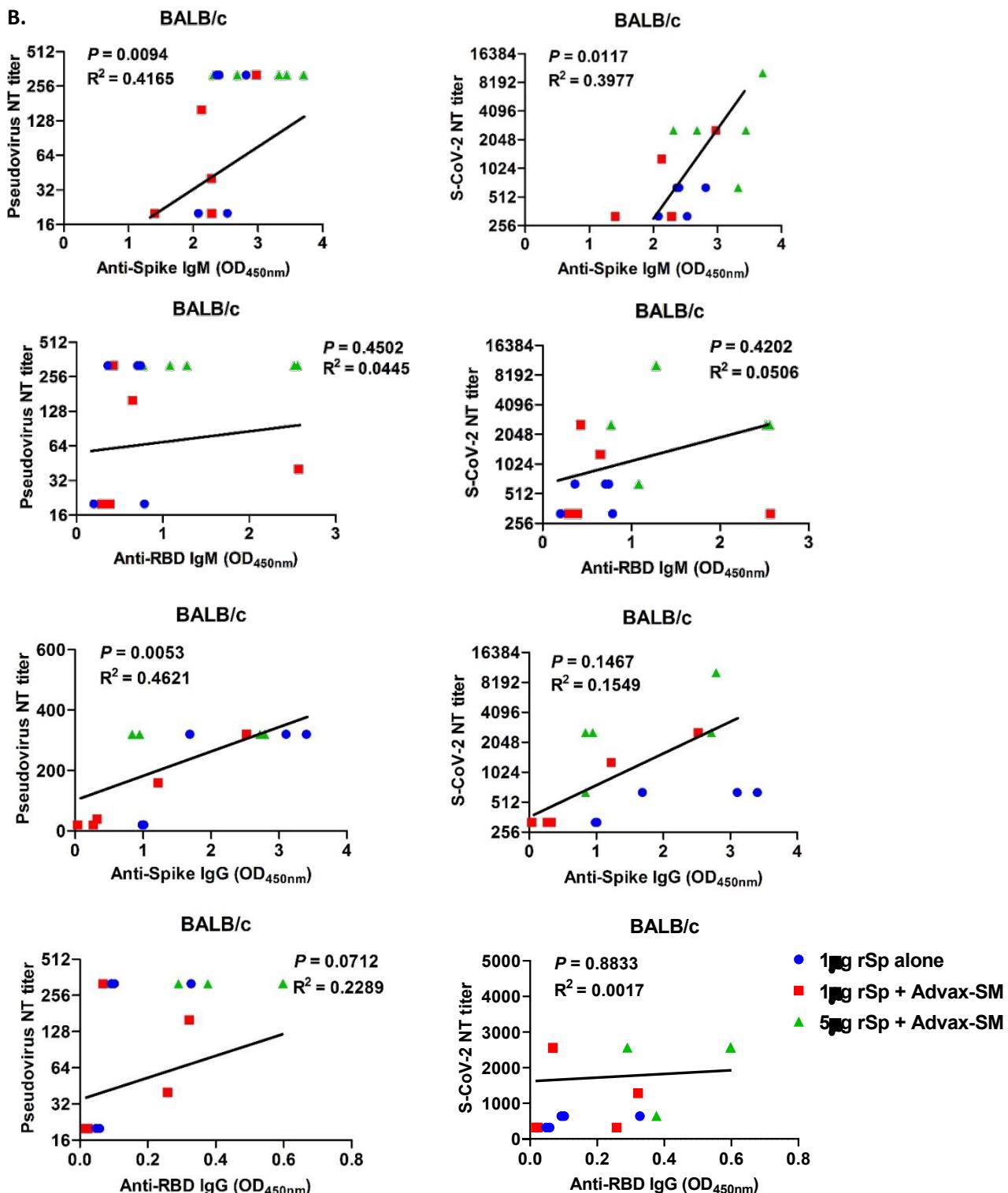


Supplementary Figure 3

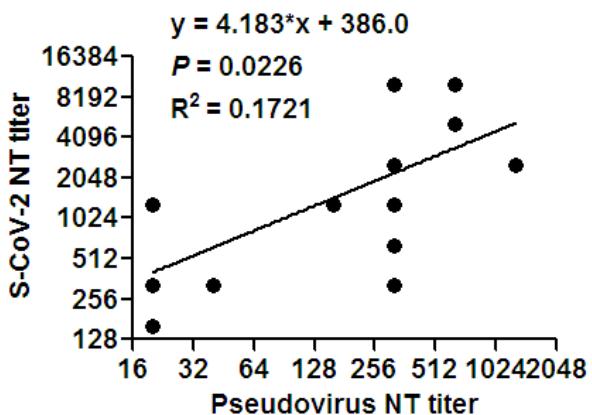


Supplementary Figure 3 (cont.)

B.



Supplementary Figure 4



Supplementary Figure 5

